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(54) **LAMINATE SUBSTRATE HAVING JOINING LAYER OF PHOTOIMAGEABLE MATERIAL**

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174/250; 257/669; 257/724; 156/578

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(57) **ABSTRACT**

A cavity-type chip module. The module is formed with an adhesive joining layer of photoimageable material interposed between a metal stiffener and a laminate top layer with a central aperture defined in the top layer. The photoimageable material is exposed to actinic radiation, except for an area corresponding to the aperture in the top layer. The unexposed area of photoimageable material is developed away to form a window in the joining layer. The top layer, joining layer, and stiffener are laminated together with the window and aperture aligned, and with a portion of the stiffener spanning the aperture to define a cavity in the resulting substrate. The removal of the unexposed photoimageable material, and the selective exposure of the joining layer to actinic radiation, keep the cavity free of photoimageable material and inhibit bleeding of the photoimageable material into the cavity from its inner edge. As a result, a semiconductor component can be flush mounted in the cavity with optimal thermal conductivity to the metal stiffener.

19 Claims, 2 Drawing Sheets

